



DEPARTMENT OF THE NAVY
COMMANDER
TRAINING AIR WING FIVE
7480 USS ENTERPRISE STREET SUITE 205
MILTON, FLORIDA 32570-6017

IN REPLY REFER TO

COMTRAWINGFIVEINST 1555.2
N8
10 Mar 11

COMTRAWINGFIVEINST 1555.2

From: Commander, Training Air Wing FIVE

Subj: AEROMEDICAL TRAINING PROGRAM FOR TRAINING AIR WING FIVE

Ref: (a) OPNAVINST 3710.7U
(b) NASTP SOP Rev. C, Change 1-13, May 2010

Encl: (1) Memorandum 3710.7U T-6B Level A Annual Training
(2) T-6B Ejection Seat/Emergency Ground Egress/ALSS
Training Instructor Personnel Qualification Sheet
(3) Hypoxia Awareness/Sensory Problems
Training Instructor Personnel Qualification Sheet
(4) MK16 Ejection Seat Brief and Egress Outline
(5) T-6B Annual Aeromedical Training Requirement Roster
(6) 3710.7U Level A Annual Aeromedical Briefs Learning
Objectives

1. Purpose. To establish Training Air Wing (TRAWING) FIVE policy and assign responsibilities for implementing reference (a) to ensure all aeromedical training requirements are met.

2. Background. Reference (a) outlines all annual aeromedical training requirements. These requirements are a combination of aeromedical briefs and dynamic training evolutions. This instruction outlines TRAWING FIVE implementation procedures and policy for ensuring all required training objectives are met and that appropriately trained personnel provide the training. COMTRAWINGFIVEINST 1555.1D will remain in effect for T-34C operations.

3. Responsibilities. The Aeromedical Safety Officer (AMSO) is designated in writing by Commander, TRAWING FIVE as the Aeromedical Training Program Manager (ATPM). In the event the AMSO is unable to hold this position, this duty should be delegated to a Wing Flight Surgeon or a Wing Safety Officer. The ATPM is responsible for training all new aeromedical training instructors and ensuring the aeromedical training curriculum meets all objectives listed in reference (a).

4. Squadron NATOPS officers or their assigned assistants shall coordinate all training with the ATPM to ensure training is available to aircrew on a regularly scheduled basis. When aircrew complete all or a portion of their annual aeromedical training, it is the

responsibility of the ATPM to send attendance notification to squadron NATOPS Officers or assigned assistants. Notification should be sent to the NATOPS Officers using enclosure (1).

The ATPM shall be assisted in this responsibility as follows:

a. TRAWING FIVE T-6B Program Manager. Shall train NATOPS/Assistant NATOPS Instructors to conduct Ejection Seat, Emergency Ground Egress, and Aviation Life Support System (ALSS) training. All instructors shall be qualified by the ATPM per enclosure (2).

b. T-6B NATOPS Officers/Assistant(s). Shall assist the ATPM in the implementation of the Aeromedical Training Program (ATP). NATOPS Officers are only authorized to conduct Ejection Seat, Emergency Ground Egress, and ALSS training. On a case by case basis, NATOPS qualified T-6B pilots, who are not NATOPS officers, may become Ejection Seat, Emergency Ground Egress, and ALSS instructors. Prior to conducting any training, all instructors shall receive appropriate instructor training from the ATPM and have it documented using enclosure (2).

c. Flight Surgeons (FS). Shall assist the ATPM in the implementation of the ATP. Flight Surgeons are only authorized to conduct the following briefs: Hypoxia Awareness Training, G-Tolerance Improvement Procedures, G-Induced Loss of Consciousness, and Sensory Problems. Prior to providing any aeromedical training, the FS shall receive appropriate instructor training from the ATPM and have it documented using enclosure (3).

d. Naval Aerospace Physiologists (NAP). May assist the ATPM in the implementation of the ATP. NAPs are authorized to conduct the following briefs: Hypoxia Awareness Training, G-Tolerance Improvement Procedures, Aeromedical Aspects of Ejection, G-Induced Loss of Consciousness, and Sensory Problems. Prior to providing any aeromedical training, the NAP shall receive appropriate instructor training from the ATPM and have it documented using enclosure (3). Any designated NAP qualified to provide these briefs for Naval Survival Training Institute (NSTI) may forgo the TRAWING FIVE training process at the discretion of the ATPM.

5. Aeromedical Training. Only personnel trained or authorized by the ATPM can conduct the Aeromedical training. NATOPS Officers shall only conduct training for the aircraft in which they are NATOPS qualified.

a. T-6B Ejection Seat Training: Reference (a) requires aircrew to receive annual ejection seat training. The TRAWING FIVE T-6B Ejection Seat Trainer (EST), located in Building 2994, satisfies this requirement and is the primary device for teaching proper ejection procedures, strap-in procedures and basic use of the T-6B ejection seat. Training shall be under the supervision of a qualified

instructor with NATOPS signature authority. Enclosure (4) outlines all required learning objectives to be briefed.

b. T-6B Emergency Ground Egress. Reference (a) requires all aircrew to receive annual emergency ground egress procedures. The TRAWING FIVE T-6B Emergency Procedure Trainer (EPT), located in Building 2994, satisfies this requirement and is the primary device for teaching proper techniques for emergency ground egress from the T-6B. All students and instructors shall perform emergency ground egress training with this device. Training shall be under the supervision of a qualified instructor. Enclosure (4) outlines all required learning objectives to be briefed.

(1) EPT Pre/Post-flight. Instructors shall comply with the following safety checks and procedures.

a. Power up and inspect EPT/EST for presence of emergency oxygen supply hose, ejection seat safety pin, Canopy Fracturing System (CFS) handle safety pin and the proper function of all pins, handles, switches, lights and ICS. Ensure the leg restraints are routed properly, the inertial reel is functioning properly, and the seat pan is properly secured to the seat. Report all discrepancies to the maintenance contractor for resolution using the Maintenance Data Collection Forms located in the log book provided at the EPT.

b. Upon completion of training, ensure emergency oxygen supply hoses and the qualification stamps are stored in the EPT/EST lock box. Replace all seat attachments in the proper position on both devices and lower the canopy on the EPT.

c. Log all training time in the log book provided at the EPT, ensure appropriate NATOPS entries are completed on all students/instructors, generate a TIMS roster and an Annual Aeromedical Training Roster using enclosure (5).

(2) Egress Training. Training shall be conducted in flight gear to include torso harness, helmet (visor down), G-suit, oxygen mask, and gloves. T-6B NATOPS qualified aircrew are not required to wear G-suit during emergency ground egress training.

a. Prior to egress training, instructors shall utilize the EST to conduct T-6B ejection seat training, emergency ground egress and teach the strap-in procedures, as outlined in NATOPS. T-6B NATOPS qualified aircrew are not required to be briefed on strap-in procedures.

b. Instructors shall teach strap-in procedures in EPT. Once prepared, the instructor will present the aircrew with an emergency situation and observe the aircrew demonstrating the proper emergency ground egress procedures. If the egress procedures are not conducted in accordance with NATOPS or completed in a timely manner, the aircrew shall repeat the egress drill.

(3) Injury Procedures. If a student is injured during training, the instructor shall ensure the following are accomplished: immediately suspend training and ensure the student does not move, and perform a primary survey of the student's injuries. Direct the Class Leader to muster uninvolved students in the classroom. Notify base Emergency Medical Services (EMS) at 623-3333, if required. Perform CPR/first aid, as required. At an appropriate time, inform the Wing Safety Officer and AMSO of student injury and file official injury report, as appropriate.

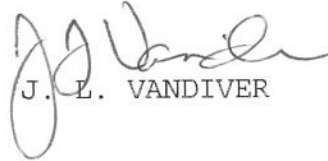
a. Aviation Life Support Systems. A lecture and hands-on demonstration of man-mounted and seat kit ALSS shall be conducted in conjunction with T-6B ejection seat training. All aircrew should have the opportunity to receive hands-on training using training assets located in Building 2994. Enclosure (6) outlines all required learning objectives to be briefed. Any designated NAP qualified to provide this brief for NSTI may forgo the TRAWING FIVE training process at the discretion of the ATPM.

b. Aeromedical Aspects of Ejection. The Aeromedical Aspects of Ejection lecture shall be addressed in conjunction with T-6B. Per reference (a), this training can be conducted by any T-6B qualified instructor trained by the ATPM. Enclosure (4) outlines all required learning objectives to be briefed. Any designated NAP qualified to provide this brief for NSTI may forgo the TRAWING FIVE training process at the discretion of the ATPM.

c. Hypoxia Awareness Training. Per reference (a), hypoxia awareness training shall be conducted annually for T-6B aircrew. When available, the reduced oxygen breathing device (ROBD) should be used to meet the hypoxia awareness requirement. ROBD training should be conducted in the T-6B OFTs. Procedures for conducting ROBD are outlined in reference (b). If the ROBD is unavailable or simulators are not functional, a hypoxia awareness brief designed by the ATPM shall be used to meet the requirement. This brief shall only be conducted by the AMSO, FS or a NAP. Enclosure (6) outlines all required learning objectives to be briefed. Any designated NAP qualified to provide this brief for NSTI may forgo the TRAWING FIVE training process at the discretion of the ATPM.

d. G-Tolerance Improvement Procedures/G-Induced Loss of Consciousness. Per reference (a), G-Tolerance Improvement Procedures (GTIP) and G-Induced Loss of Consciousness (GLOC) briefs shall be conducted annually for T-6B aircrew. This requirement shall be met using a brief designed by the ATPM and be conducted by the AMSO, FS or NAP. Enclosure (6) outlines all required learning objectives to be briefed. Any designated NAP qualified to provide this brief for NSTI may forgo the TRAWING FIVE training process at the discretion of the ATPM.

e. Sensory Problems. Per reference (a), a Sensory Problems brief shall be conducted annually for all aircrew. This requirement shall be met using a brief designed by the ATPM and be conducted by the AMSO, FS or NAP. Enclosure (6) outlines all required learning objectives to be briefed. Any designated NAP qualified to provide this brief for NSTI may forgo the TRAWING FIVE training process at the discretion of the ATPM.



J. L. VANDIVER

Distribution:
COMTRAWINGFIVEINST 5216.1S
List II (e, h, j)

MEMORANDUM

From: Aeromedical Safety Officer, TW-5
To: NATOPS Officer, VT-X

Subj: 3710.7U LEVEL A ANNUAL TRAINING

1. The personnel listed have completed the following 3710.7U Level A Annual Training Requirements on dd-mmm-yy:

T-6B Aeromedical Aspects of Ejection
T-6B Ejection Seat Training
T-6B Emergency Ground Egress
Hypoxia Awareness Training
Sensory Problems

<u>Rank</u>	<u>Name</u>	<u>SSN</u>	<u>Squadron</u>
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Aeromedical Officer
RANK, MSC, SERVICE BRANCH

**TRAINING AIR WING FIVE
EJECTION SEAT/EMERGENCY GROUND EGRESS/ALSS TRAINING
INSTRUCTOR PERSONNEL QUALIFICATION SHEET**

This qualification sheet specifies the requirements for qualification as a T-6B Ejection Seat/Emergency Ground Egress/ALSS Training Instructor at Training Air Wing FIVE.

Name: _____ Rank: _____ Service: _____
SSN (last four): _____ Squadron: _____

1. Qualified NATOPS/Asst NATOPS Instructor, Aerospace Physiologist, Wing Safety Officer, or Wing Aviation Safety Officer. _____
2. NATOPS signature authority. _____
3. Read and understand COMTRAWINGFIVEINST 1555.2. _____
4. Complete ejection seat/emergency ground egress/ALSS training as a student. _____
5. Observe one training lecture/lab conducted by the TRAWING FIVE ATPM. _____
6. Teach one training lecture/lab as an Instructor under supervision of the TRAWING FIVE ATPM. _____

Qualified as T-6B (circle one or both) Ejection Seat/Emergency Ground Egress/ALSS Training Instructor _____

TRAWING FIVE ATPM

DATE

**TRAINING AIR WING FIVE
HYPOXIA AWARENESS/GLOC/GTIP/SENSORY PROBLEMS TRAINING
INSTRUCTOR PERSONNEL QUALIFICATION SHEET**

This qualification sheet specifies the requirements for qualification as a Hypoxia Awareness, GTIP/GLOC or Sensory Problems Training Instructor at Training Air Wing Five.

Name:_____ Rank:_____ Service:_____
SSN (last four):_____ Squadron:_____

1. Designated Aerospace Physiologist or Flight Surgeon _____
2. Read and understand COMTRAWINGFIVEINST 1555.2. _____
3. Observe one brief conducted by the TRAWING FIVE ATPM. _____
4. Provide one brief as an instructor under supervision of the TRAWING FIVE ATPM. _____

Qualified as Hypoxia Awareness, GLOC/GTIP, Sensory Problems
(circle one or more) Training Instructor _____

TRAWING FIVE ATPM

DATE

MK16 EJECTION SEAT BRIEF AND EGRESS OUTLINE

1. Canopy system
 - a. Ejection with canopy in any position other than fully locked could cause seat malfunction and serious injury.
2. Ejection Seat
 - a. Garter connections and proper positioning
 - b. Leg restraint adjustment
 - c. SSK function, adjustment, and purpose
 - d. Lap belt fitting function, adjustment, and purpose
 - e. G-suit connection
 - f. Emergency oxygen hose and main oxygen hose function and purpose
 - g. Shoulder restraint fittings function and purpose
 - h. Communication cords function and purpose
 - i. CRU-60 function and purpose (do not remove from harness connection point)
 - j. MOR handle function and purpose (can only be used after ejection)
 - k. Emergency O2 actuator function and purpose
 - i. lasts up to 10 min
 - ii. Positive pressure breathing
 - l. Seat adjustment function, purpose, and adjustment
 - m. Canopy breakers
 - n. Ejection handle
 - o. Seat safety pin
 - p. ISS purpose and function
 - i. Command forward
 - ii. Both
 - iii. Solo
 - q. Seat kit release handle location and function
 - i. Do not use handle to release seat kit over land
 - ii. If SSK is not needed post-ejection, you may disconnect SSK fitting on descent by releasing SSK fittings
 - iii. If released, the kit will deploy and hang from 12 foot lanyard
 - r. ADU function and purpose (always leave in manual)
 - s. URT-140 location and purpose
 - i. Doesn't signal when submerged
 - ii. Starts signaling automatically upon seat/man separation
3. ALSS - describe location and function
 - a. SSK Contents
 - i. Compass
 - ii. Signal smoke

- iii. Pencil Flares
 - iv. Mirror
 - v. First aid kit
 - vi. PRC-90 survival radio
 - vii. URT-140 emergency locator beacon
 - viii. HGU-68
 - ix. CRU-60
 - x. MBU-23/12
- b. Strobe light
- c. Shroud line cutter located in G suit pocket
- d. After water entry, only release right SSK fitting because releasing the left side may result in loss of SSK and survival items
- 4. IROK/ADR/PLF
 - a. Over water
 - b. Over land
- 5. Seat/man separation and chute deployment
 - a. Chute will deploy between 14K-16K
 - b. High altitude (>15K)
 - i. Barostatic time release unit monitors altitude and g load conditions
 - ii. When altitude and g load conditions are satisfactory chute is deployed and seat/man separation is initiated
 - iii. If over high terrain (>8K), consider using the MOR
 - c. Low altitude (8-15K)
 - i. G load monitored when satisfactory chute deployment and seat man separation is initiated
 - d. Low altitude (<8K)
 - i. Chute deploys and seat/man separation occurs
- 6. Ground emergency egress
 - i. Refer to DASH-1/NATOPS
- 7. Discuss T-6 recent incidents and HAZREPS that are relevant to egress and ejection

AEROMEDICAL ASPECTS OF EJECTION FOR MK16

- 1. Ejection decision
 - a. Out of controlled flight - eject by 6K AGL
 - b. Controlled flight - eject no lower than 2K AGL
 - c. Should be briefed prior to flight
 - d. Psychological factors that cause ejection delay
- 2. Ejection envelope
 - a. Zero airspeed zero altitude capability
 - b. OPNAVINST range 103-232 lbs.

- c. 125-180 KIAS is the optimum airspeed for ejection
- 3. Optimal body position
 - a. Head firmly against headrest
 - b. Elevate chin 10 degrees
 - c. Press shoulders back against the seat
 - d. Hold elbows firmly to sides
 - e. Press buttocks firmly to the back of the seat
 - f. Attempt to place thighs firmly to the seat
 - g. Place heels firmly on the deck
- 4. Ejection initiation
 - a. 30-50 lbs of force required to pull ejection seat handle
 - b. Use one of the 2 approved hand positions for ejection initiation
 - c. Pull ejection handle up and towards abdomen keeping elbows close to sides
- 5. Seat/man separation and chute deployment
 - a. High altitude (>15K)
 - i. Barostatic time release unit monitors altitude and g load conditions
 - ii. When altitude and g load conditions are satisfactory chute is deployed and seat/man separation is initiated
 - iii. If over high terrain, consider using the MOR
 - b. Low altitude (8-15K)
 - iv. G load monitored when satisfactory chute deployment and seat/man separation is initiated
 - c. Low altitude (<8K)
 - v. Chute deploys and seat/man separation occurs
- 6. IROK/ADR/PLF (if not covered during egress)
 - a. Over water
 - b. Over land
 - vi. PLF (Balls of feet, Side of calf, Side of thigh, Side of buttocks, Shoulder blade)
- 7. Hazards
 - a. Flash burn
 - b. Cockpit missile hazards/loose gear
 - c. Poor body position
 - i. Flail injuries
 - ii. Spinal fractures
 - iii. Soft tissue injuries
 - d. Excessively heavy or light body weight
 - i. Reduces stability of seat post ejection
 - ii. Individuals <103 could be injured during ejection
 - iii. Individuals >232 lbs may not clear aircraft during ejection

- iv. Heavy individuals have a higher descent rate after parachute deployment
- e. Wind blast injuries
 - i. Ensure mask is on and visor is down
 - ii. Proper body position is key to reducing flailing injuries
- f. ALSS fit
 - i. DO NOT attempt to make adjustments to your torso harness. If you have fitting issues with the harness see your PR shop
- g. Landing in winds in excess of 25 knots increases risk of severe injury or death
- h. PLF injuries
 - i. Extremity fractures and soft tissue injuries
- 8. Discuss recent incidents and HAZREPS that are relevant to ejection
- 9. Static seat body position and ejection handle pull
 - a. Student sits in seat
 - b. Analyze proper body position and ejection handle grip
 - c. Handle is pulled by shrugging shoulders and pulling up and into the body keeping elbows close to their side

T-6B ANNUAL AEROMEDICAL TRAINING REQUIREMENT ROSTER

INSTRUCTOR _____

DATE _____

Rank, First Name, Last Name	Squadron	Last Four	Hypoxia GTIP	ROBD	Egress Eject
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

3710.7U Level A Annual Aeromedical Briefs Learning Objectives

Hypoxia Awareness Training Learning Objectives

1. List and describe types of hypoxia
2. Effects of altitude on blood O2 saturation and altitude
3. Describe time of useful consciousness
4. Hypoxia symptoms
5. Describe T-6B OBOGS systems
6. O2 Monitor set points
7. Effects of OBOGS free flow conditions on aircrew
8. T-6 regulator and composition control
9. Effects of cycling the T-6 regulator on the OBOGS system
10. Describe T-6 emergency oxygen
11. Describe what Oxygen Paradox is and why it occurs
12. Procedures to recover from hypoxia
13. Platform specific HAZREPS

GLOC and GTIP Learning Objectives

1. Effects of Gz on the human body
2. Effects of Gz magnitude, onset rate, and duration
3. Describe GLOC, ALOC, blackout and grey out
4. Types of incapacitation due to GLOC
5. Factors affecting G-tolerance
6. Push-pull effect
7. Benefits and possible drawbacks of physical conditioning on G-tolerance
8. G-tolerance improvement procedures
9. Platform specific HAZREPS

Sensory Problems Learning Objectives

1. When spatial disorientation will most likely strike
2. Discuss factors that increase risk of experiencing spatial dis-orientation
3. Building a spatial strategy
4. The role of vision in orientation
5. Day and night vision
6. Day and night blind spots
7. Focal vs. ambient vision
8. Monocular and binocular vision
9. Size reference illusions
10. Featureless terrain and optical flow
11. Black hole illusion
12. Fixed and false horizons

13. Perspective illusion and wire mishaps
14. Terrain masking
15. Runway illusions
16. Vestibular system
17. The leans
18. False pitch illusion
19. G-Excess illusion
20. Optokinetic cervical reflex and reversal errors
21. Preventing and recovering from spatial disorientation
22. HAZREPs and/or mishaps